

Amendments to the Claims

Claim 1 (Original): A method for determining an amount of energy released by a thermally responsive snap-action bimetallic actuator, the method comprising:

presenting a thermally responsive snap-action bimetallic actuator to a sensing portion of a force sensing device while the actuator is configured in a first pre-snap state wherein a mobile portion of the actuator is spaced away from the sensing portion of the force sensing device; and

determining a force generated by the actuator during transit to a second post-snap state wherein the mobile portion of the actuator is moved into forceful contact with the sensing portion of the force sensing device.

Claim 2 (Original): The method of claim 1 wherein presenting the actuator to the sensing portion of the force sensing device includes thermally activating the actuator to transit to the second post-snap state.

Claim 3 (Original): The method of claim 1 wherein presenting the actuator to the sensing portion of the force sensing device includes placing the actuator on a support structure configured to support the actuator.

Claim 4 (Original): The method of claim 1 wherein determining a force generated by the actuator includes detecting a peak force generated by moving the mobile portion of the actuator into forceful contact with the sensing portion of the force sensing device.

Claim 5 (Original): The method of claim 1 wherein presenting the actuator to the sensing portion of the force sensing device includes positioning the actuator in proximity to a thermal stage and activating the thermal stage.

Claim 6 (Original): The method of claim 5 wherein activating the thermal stage includes activating the thermal stage in a controlled manner.

Claim 7 (Original): The method of claim 6 wherein determining a force generated by the actuator includes determining an energy-temperature rate relationship exhibited by the actuator.

Claim 8 (Original): The method of claim 7, further comprising assembling the actuator into operative relationship with a movable indicator portion of a thermal sensing device.

Claims 9-44 (Cancelled)

Claim 45 (New): A method for determining an amount of energy released by a thermally responsive snap-action bimetallic actuator during transit between first and second states, the method comprising:

presenting to a force indicator on a support structure a thermally responsive snap-action bimetallic disc having a mobile portion within a substantially immobile edge portion, the disc being configured in a first pre-snap state wherein the mobile portion is positioned on a first side of the substantially immobile edge portion opposite from the force indicator, the disc being presented sufficiently closely to the force indicator that the mobile portion is positioned to forcefully interact with a sensing portion of the force indicator during transition of the disc to a second post-snap state wherein the mobile portion transits to a second side of the edge portion and into a position that is proximate to the force indicator;

changing a temperature of the disc to transition the disc to the second post-snap state wherein the mobile portion forcefully transits into a position on the second side of the edge portion proximate to and forcefully interacting the force indicator; and

sensing at the mobile portion of the disc with the sensing portion of the force indicator a peak force generated by the disc during transition to the second post-snap state.

Claim 46 (New): The method of claim 45 wherein changing the temperature of the disc includes changing a temperature of the support structure.

Claim 47 (New): The method of claim 45 wherein changing the temperature of the disc includes changing the temperature at a controlled rate.

Claim 48 (New): The method of claim 45 wherein the temperature of the disc is below an actuation temperature of the disc prior to changing.

Claim 49 (New): The method of claim 48 wherein changing the temperature of the disc includes increasing the temperature above the actuation temperature.

Claim 50 (New): The method of claim 45 wherein presenting the disc to the force indicator on a support structure includes simulating a portion of a structure intended to support the disc during operation in a temperature sensing device.

Claim 51 (New): The method of claim 45 wherein changing a temperature of the disc to transit the mobile portion into a position on the second side of the edge portion proximate to the force indicator includes generating a force with the transition of the disc.

Claim 52 (New): The method of claim 51 wherein sensing a peak force includes applying the force generated by the disc to the sensing portion of the force indicator.

Claim 53 (New): A method for determining an amount of energy released by a thermally responsive snap-action bimetallic disc, the method comprising:

presenting to an energy qualifying device a bimetallic disc having a center portion surrounded by and movable relative to a peripheral portion; and

with the energy qualifying device qualifying an energy released by transit of the center portion from a first side of the peripheral portion to a second opposite side of the peripheral portion during operation of a snap action transitioning the bimetallic disc between a first pre-snap state and a second post-snap state.

Claim 54 (New): The method of claim 53 wherein qualifying the released energy includes thermally activating the disc in the presence of the energy qualifying device.

Claim 55 (New): The method of claim 54 wherein qualifying the released energy further includes moving the center portion of the disc into contact with an operational portion of the energy qualifying device during transit of the center portion from the first side to the second side of the peripheral portion.

Claim 56 (New): The method of claim 55 wherein thermally activating the disc includes one of heating and cooling the disc.

Claim 57 (New): The method of claim 55 wherein qualifying the released energy includes determining a minimum force applied to the operational portion of the energy qualifying device during transit of the center portion of the disc.

Claim 58 (New): The method of claim 55 wherein qualifying the released energy includes thermally activating the disc at a controlled rate of temperature change.

Claim 59 (New): The method of claim 58 wherein qualifying the released energy includes thermally activating the disc at a plurality of different controlled rates of temperature change.